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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,174	02/02/2004	Harumi Kaga		3641
7590 03/02/2007				
George A. Loud, Esquire BACON & THOMAS Fourth Floor 625 Slaters Lane Alexandria, VA 22314-1176		EXAMINER ISSAC, ROY P		
		ART UNIT PAPER NUMBER 1623		
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	03/02/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/768,174

Applicant(s)

KAGA ET AL.

Examiner

Roy P. Issac

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 9-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This application claims priority under 35 U.S.C §119 (a)-(d) and 365(c) to foreign application JAPAN 2003-026406 filed 02/03/2003. Certified copy or certified translation of the priority document has not been received.

Election/Restrictions

Applicant's election with traverse of the invention of Group I, claims 1-8 drawn the product claims is acknowledged. The traversal is on the ground that "the process claims are limited to a process for preparation of novel products as defined by the elected product claims." As indicated in the office action dated 12 January 2007, the inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process. For example, polymerization by cationic ring cleavage of glucopyranose sugars can be used to produce hyperbranched sugars. (Schuerch et. al.; Of Record).

Furthermore, the search for inventions of groups I and II will place an undue burden on the Office. The search field for products is non-coextensive with the search field for a process of preparation of the same products. A reference to the compositions herein would not necessarily be a reference to the process for preparing the same herein. The compositions and methods of preparation have separate consideration as to patentability.

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The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

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The restriction requirement between Inventions I and II was deemed proper and is therefore made FINAL.

Claims 9-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction requirement in the reply filed on 06 February 2007.

Claims 1-8 will be examined on the merits herein.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitations, "mannitol-type", "iditol-type", "annitol-type", "galactitol-type", "glucitol-type" and "xylitol-type" in these claims render claims herein indefinite. The recitations, "mannitol-type", "iditol-type", "annitol-type", "galactitol-type", "glucitol-type" and "xylitol-type" of the compounds are not clearly defined in the specification. Hence, one of ordinary skill in the art could not ascertain and interpret the metes and bounds of the patent protection desired as to "mannitol-type", "iditol-type", "annitol-type", "galactitol-type", "glucitol-type" and "xylitol-type" of compounds herein. One of ordinary skill in the art would clearly recognize that "mannitol-type", "iditol-type", "annitol-type", "galactitol-type", "glucitol-type" and

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"xylitol-type" would read on any those compounds having any widely varying groups that possibly substitute the compounds.

Any significant structural variation to a compound would be reasonably expected to alter its properties; e.g., physical, chemical, physiological effects and functions. Thus, it is unclear and indefinite as to the "mannitol-type", "iditol-type", "annitol-type", "galactitol-type", "glucitol-type" and "xylitol-type" of compounds herein encompassed thereby.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

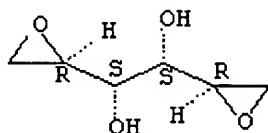
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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Claims 1, 5 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Kunz et. al. (U.S. Patent Publication No. 2004/0242919 A1; PTO-892, Cited by the examiner).

Kunz et. al. discloses monoanhydro-mannitol, dianhydrosorbitol, and dianhdromannitol. (Examples 1-2; Page 6, Paragraphs 52-58). Dianhydro-D-mannitol has the following structure. (Taken from STN search report).



This compound reads on formula I of the instant application, in which R is a Hydrogen, and nRs are equal and at least one R is hydrogen. Kunz et. al. further discloses a method for esterification of the anhydrated sugars. (Claim 1; Examples 3-6, Pages 6-7, Paragraphs 59-66).

Claims 1-4 and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Schuerch et. al. (J.Am. Chem. Soc. 1959, 4054-4058; PTO-892, Cited by the examiner).

Schuerch et. al. discloses a method for preparing polymers of anhydrosugar resulting in highly branched polysaccharides. (Abstract). The polymer has eleven unsubstituted units at c2, C3 and C4, and seven unsubstituted as C2 and C3 or C3 or C4 for each twenty units while two units are resistant to periodate oxidation. (Abstract). Schuerch et. al. does not disclose the degree of branching for the polymer therein. However, the lack of periodate

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oxidation as well as the presence of varying degrees of substitution in some of the polymers indicate the presence of varying degrees of branching ranging from low to high. Applicant in the instant application, describe the polymer of Schuerch et. al. as "hyperbranched carbohydrate polymer." (Specification, Page 1, first paragraph under "Description of the Related Art".) As such, the polymer of Schuerch et. al. is expected to have high degree of branching reading on the ranges 0.05 to 1.0 and 0.45 to 1.0 claimed herein. The structure of polymer unit disclosed reads on the compounds of formula 3 of the instant application.

(Figure 1, Page 4055, Column 2).

No claim is allowed.

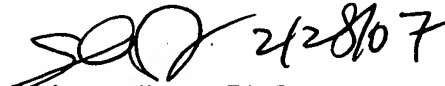
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roy P. Issac whose telephone number is 571-272-2674. The examiner can normally be reached on 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia Anna Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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